

Making Salts

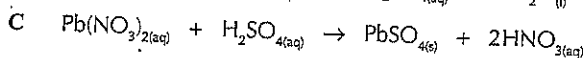
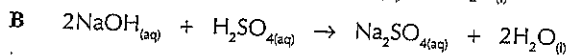
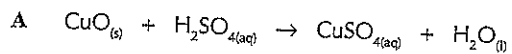
- 1 Use words from the box to complete the following sentences about the solubility of salts. Each word can be used once, more than once or not at all.

soluble alkalis barium acids sodium insoluble

- a) Most chlorides and nitrates are in water. [1]
- b) Soluble salts can be made by reacting with insoluble bases. [1]
- c) Common carbonates are in water. Exceptions are potassium, ammonium and carbonates. [2]

[Total 4 marks]

- 2 A, B and C are chemical equations for reactions in which salts are formed.



State which equation (A, B or C) shows the formation of a salt:

- a) in a reaction between an acid and an alkali.
- b) by precipitation.
- c) in a reaction between an acid and an insoluble base.

[Total 3 marks]

- 3 Precipitation reactions can be used to produce salts.

- a) Which **two** salt solutions could you mix together to produce the salt calcium sulfate? Place crosses in the appropriate boxes to indicate your answer.

☐ calcium nitrate ☐ barium sulfate ☐ calcium carbonate ☐ potassium sulfate

[2]

- b) Describe how you would separate calcium sulfate from the reaction mixture after the reaction has finished.

[1]

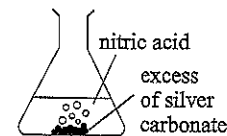
[Total 3 marks]

- 4 Silver nitrate is a soluble salt. It can be made by adding an excess of insoluble silver carbonate to nitric acid until no further reaction occurs, as shown in the diagram.

- a) Give **one** observation that would indicate that the reaction is complete.

.....
.....

[1]

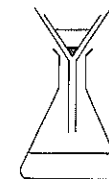


- b) Write a word equation for the reaction.

..... [1]

- c) Once the reaction is complete, the excess silver carbonate can be separated from the silver nitrate solution using the apparatus shown to the right. What is this method of separation called?

..... [1]



- d) Describe how you could produce solid silver nitrate from silver nitrate solution.

..... [1]

- e) Potassium nitrate can be made by reacting potassium hydroxide with nitric acid.

- i) Explain why the same method used for making silver nitrate (as above) cannot be used.

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.....
.....

[2]

- ii) Briefly describe how you would produce a solution of pure potassium nitrate from potassium hydroxide and nitric acid.

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.....
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.....
.....

[3]

[Total 9 marks]

Exam Practice Tip

An exam question might rely on your knowledge of the solubility of different salts, and ask you to apply this to an unfamiliar situation. So, be sure to learn the general rules for predicting which salts are soluble — if they're firmly lodged in your brain, you'll be able to tackle whatever question the examiners throw at you.

Score

19